

REMARKS

Claims 38-55 were pending in the application when the Office Action was mailed. Applicants herein amend claims 38, 44, 48, and 55 and cancel claims 43 and 51. Accordingly, claims 38-42, 44-50, and 52-55 are currently pending.

The Office Action rejects claims 38, 39, 43, 47, 55, and 57 under 35 U.S.C. § 102(b) as being unpatentable over Carter and rejects claims 40-42, 44-46, 48-54, and 56 under 35 U.S.C. § 103(a) as being unpatentable over a combination of Carter and McAllister. Applicants herein amend the claims to further clarify the subject matter for which they seek protection.

Carter is directed to a method for identifying a listing in an automated telephone directory (e.g., a person's name and telephone number) based on input consisting exclusively of Dual Tone Multi-Frequency (DTMF) signals (i.e., the signals generated when a caller presses a key on a telephone keypad). (Carter, 1:11-12). In Carter, a user searches for a listing by providing a sequence of keypad entries corresponding to a portion of text (e.g., a person's first name). (Carter, Fig. 5A). For example, if a caller were searching for directory information corresponding to a person named "Bob Smith," the caller might enter 2-6-2, corresponding to B-O-B. The user may then be prompted to press another key if multiple listings match the sequence entered. (Carter, Fig. 5C). For example, the user may hear, "Press one for Bob Smith. Press two for Bob Jones. Press three for Amber Smith." The user may then press one to receive the directory information corresponding to Bob Smith. Carter "exclusively requir[es] DTMF inputs from a caller" to provide input. (Carter, 2:66-3:1).

McAllister is directed to a method for identifying a listing in an automated telephone directory by receiving a primary search request from a user and narrowing the search results by requesting secondary information from the user. Once a user has connected to the automated telephone directory, the user provides a search request by, for example, speaking a person's name into a telephone receiver. (McAllister, 9:45-46). If multiple

listings match a request, the user may be prompted to provide secondary information to narrow down the result list. (McAllister, 10:31-35). For example, a user may be asked to provide the person's city of residence. Once the list has been sufficiently narrowed, the user may be prompted to select one of the listings matching the criteria provided. (McAllister, 10:43-44). For example, a caller may hear "We have two Bob Smiths. For Bob Smith in Reno, Nevada, say 'Reno.' For Bob Smith in Helena, Montana say 'Helena.'" The user could then select the appropriate listing by providing the appropriate response.

In contrast, applicants' technology is directed to a method of an automated telephone directory system for generating a constrained recognition grammar in the process of recognizing speech. Speech recognition systems have difficulty distinguishing between similar sounding words. (Specification, page 2). For example, "Bob" may be confused with "Rob." Applicants' technology provides a method for establishing a constrained recognition grammar to aid in the process of recognizing speech. A constrained recognition grammar is a set of words that a speech recognition system can choose from when identifying a spoken word or set of words. Using applicants' technology, a user constrains a recognition grammar by pressing keys on a telephone keypad corresponding to a particular keyword or portion of a keyword. For example, if a user were search for "Bob Smith," the user may press 2-6-2, the sequence corresponding to B-O-B. A constrained recognition grammar may then be created comprising each of the directory listings that contain a portion of text corresponding to this sequence (e.g. listings containing "Bob" or "Amber"). The user may then be prompted to speak the name of the person the user is seeking. In this example, the user may say "Bob Smith." Because the recognition grammar has been constrained to a particular set of words, there is no risk that the speech will be incorrectly recognized as a word that does not an element of the constrained recognition grammar. For example, there is no risk that the system will recognize "Bob Smith" as "Rob Smith" when the constrained recognition grammar is limited to "Bob Smith" and "Amber Smith."

Claims 38 and 48 now recite "recognizing the input utterance using a constrained recognition grammar that is constrained by the output utterances corresponding to the identified keywords such that the input utterance can only be recognized as one of the identified keywords." Similarly, claim 55 now recites "a component that recognizes the input utterance using a constrained recognition grammar that is constrained by the output utterances corresponding to the identified keywords such that the input utterance can only be recognized as one of the identified keywords." Neither Carter nor McAllister disclose this feature. In Carter, input from a user is explicitly limited to DTMF signals. (Carter, 2:66-3:1). Therefore, Carter has no need to constrain a recognition grammar because Carter does not recognize speech. McAllister narrows search results down by requesting additional information until the list of search results is short enough to present to a user for selection. A user may then orally select the appropriate result. However, the Examiner points to no portion of McAllister that teaches or suggests constraining a recognition grammar to aid in the process of recognizing speech.

In view of the above amendments and remarks, applicants believe the pending application is in condition for allowance. Accordingly, applicants respectfully request reconsideration and allowance.

Please charge any deficiencies or credit any overpayments to our Deposit Account No. 50-0665, under Order No. 418268600US1 from which the undersigned is authorized to draw.

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